RESIDENTIAL

# WST-BKX54-A3

## WBC Back Contact Series

# 500-505W




30 years product warranty
30 years linear performance
-1 % 1st-year degradation
-0.35 % annual power degradation
>88.85 % of linear performance after 30 years
Applicable to front-side power at STC only

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## MECHANICAL DATA

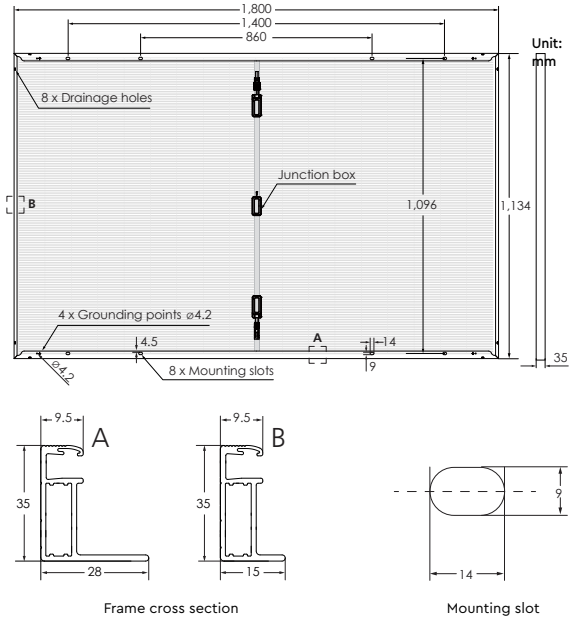
| | |
|---|---|
| Cell | Monocrystalline, N-type, bifacial |
| Quantity and wiring of cells | 108 (6 strings x 18 cells) |
| Bifaciality | 75 ± 5% |
| Dimensions | 1,800 x 1,134 x 35 mm |
| Weight | 25 kg (55.1 lbs) |
| Front-side glass | 2.0 mm, highly transparent solar glass with anti-reflective coating |
| Back-side glass | 2.0 mm, highly transparent solar glass, partially white printed |
| Frame | Black anodised aluminium |
| Junction box | IP68, 3 bypass diodes |
| Connector type | Stäubli Electrical Connectors AG (MC4-Evo2A) PV-KST4-EVO2A/xy, PV-KBT4-EVO2A/xy |
| Cable length (IEC/UL) | Cable x 2 1,200 mm / 4 mm² |
| Fire safety class[1] (IEC61730) | Class C |
| Protection class (IEC 61140) | II |

## OPERATING CONDITION

| | |
|---|---|
| Operating temperature | −40 °C to +85 °C / −40 °F to +185 °F |
| Module [T98] $_{MAX}$ | 70°C |
| Maximum system voltage IEC | 1,500 VDC |
| Maximum series fuse | 30 A* |
| Maximum design load (push/pull) | +3,600 Pa / -1,600 Pa |
| Maximum test load (push/pull) | +5,400 Pa / -2,400 Pa |
| Nominal module operating temperature NOCT | 45 ± 2°C |
| Temperature coefficient of $P_{MAX}$ | -0.26%/°C |
| Temperature coefficient of $V_{OC}$ | -0.22%/°C |
| Temperature coefficient of $I_{SC}$ | 0.05%/°C |

*The installation of additional blocking diodes or fuses is necessary with the parallel connection of module strings.

## DIMENSIONS




Frame cross section

Mounting slot

## PACKAGING



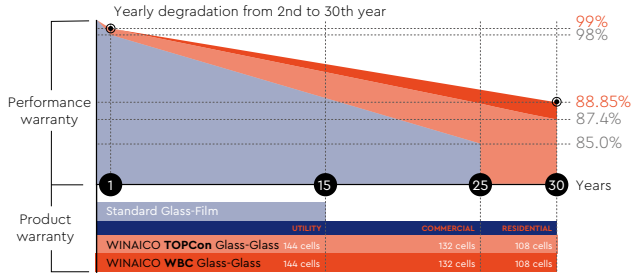

1,810 mm | 1,120 mm | 1,252 mm | 31 modules | 830 kg | 26 pallets

## ELECTRICAL DATA

Module type

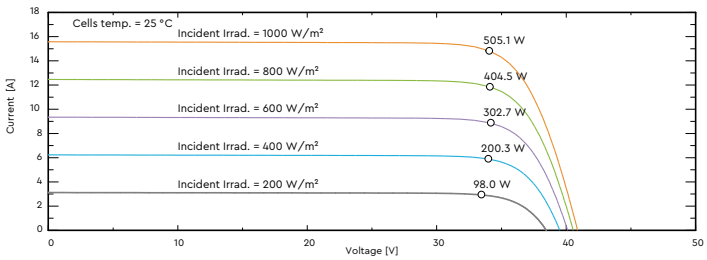
| Test Conditions | | WST-500BKX54-A3 STC[2] | WST-500BKX54-A3 NOCT[3] | WST-500BKX54-A3 BNPI[4] | WST-505BKX54-A3 STC[2] | WST-505BKX54-A3 NOCT[3] | WST-505BKX54-A3 BNPI[4] | |
|---|---|---|---|---|---|---|---|---|
| Nominal performance | $P_{MAX}$ | 500 | 382 | 545 | 505 | 386 | 550 | Wp |
| Voltage at maximum performance | $V_{MP}$ | 33.97 | 32.19 | 33.97 | 34.08 | 32.29 | 34.08 | V |
| Current at maximum performance | $I_{MP}$ | 14.72 | 11.88 | 16.11 | 14.82 | 11.96 | 16.22 | A |
| Open circuit voltage | $V_{OC}$ | 40.77 | 39.25 | 40.77 | 40.88 | 39.35 | 40.88 | V |
| Short circuit current | $I_{SC}$ | 15.48 | 12.49 | 16.94 | 15.58 | 12.57 | 17.05 | A |
| BSI: 1000 W/m² front / 300 W/m² rear irradiance | $I_{SC}$ | | 18.73 | | | 18.85 | | A |
| Maximum power bifaciality coefficient | $\phi P_{MAX}$ | | 70±5 | | | 70±5 | | % |
| Open circuit current bifaciality coefficient | $\phi V_{OC}$ | | 95±5 | | | 95±5 | | % |
| Short circuit current bifaciality coefficient | $\phi I_{SC}$ | | 75±5 | | | 75±5 | | % |
| Module efficiency | | | 24.5 | | | 24.7 | | % |
| Bifacial gain[5] *Depending on irradiation conditions | 10 % Pmpp | | 550 (+50) | | | 556 (+51) | | W |
| | 15 % Pmpp | | 575 (+75) | | | 581 (+76) | | W |
| | 20 % Pmpp | | 600 (+100) | | | 606 (+101) | | W |
| Power tolerance | | | 0~+5 | | | 0~+5 | | W |

## WINAICO PERFORMANCE GUARANTEE




Based on front-side power at STC

## CHARACTERISTIC CURVES




## PRODUCT AND QUALITY CERTIFICATES

IEC 61215:2021, IEC 61730:2023

ISO 9001 Quality Management System
ISO 45001 Occupational Health and Safety Management System
ISO 14001 Environment Management System
SA 8000 Social Accountability

1. The fire safety test methods according to IEC 61730-2, Fire Tests of Roof Coverings.
2. Electrical data applies under standard test conditions (STC): solar radiation 1,000 W/m2 with light spectrum AM 1.5, with cell temperature 25 °C. Measurement tolerance of Pmax:±3%; Voc:±3%; Isc:±5% at STC.
3. Electrical data applies under Nominal Operation Cell Temperature (NOCT), irradiance of 800 W/m², spectrum AM 1.5, ambient temperature 20°C, wind speed 1 m/s.
4. BNPI: The front side 1,000 W/m² solar irradiance and rear 135 W/m². NMOT/BNPI: Measurement tolerance of Pmax: ±3%; Voc: ±3%; Isc: ±5%.
5. The additional power gain from the rear side depends on the irradiance conditions at the installation site and the mounting situation.

Specifications included in this datasheet are subject to change without notice. WST-505BKX54-A3_AUS_CEC.1026

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